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University of Pennsylvania Law Review

And American Law Register

FOUNDED 1852

Published Monthly, Except July, August and September, by the University of Pennsylvania Law School, at 236 Chestnut Street, Philadelphia, Pa., and
34th and Chestnut Streets, Philadelphia, Pa.

VOLUME 63

MARCH, 1915.

NUMBER 5

REDUCTION TO PRACTICE OF PATENTABLE INVENTIONS.

Who is the first and original inventor of a patentable invention? When does a patentable invention first exist? An attempt to answer these questions reveals at once a large popular misapprehension on a problem no one may solve to meet all existing and possible conditions. It would, indeed, be the height of presumption on my part to attempt any finality of statement upon either of these questions which have engaged the minds of such great jurists as Mr. Justice Story in *Reed v. Cutter*,¹ Judge Taft in *Christie v. Seybold*,² Judge Putnam in *Automatic Weighing Machine Company v. Pneumatic Scale Corporation*,³ and Judges Colt, Lowell and Aldrich upon the appeal of that case.⁴ It is, in fact, something of a shock to the smugness of our learning that sixty-two years after the pronouncement of Mr. Justice Story in *Reed v. Cutter*, it should be necessary for Judge Colt to write a very substantial monograph upon the entire subject. But a shock of this sort is beneficial in that it awakes us to a better mentality and

¹ 1 Story, 590; Fed. Cas. 11,645 (1841).

² 55 Fed. Rep. 69; 5 C. C. A. 33 (1893).

³ 158 Fed. Rep. 415 (1908).

⁴ 166 Fed. Rep. 288; 92 C. C. A. 206 (1909).

dissipates in some measure false conceptions due to loose thinking.

The lay idea is that the man who first performs the mental act of inventing or discovering a thing is the original and first inventor, and is entitled to a patent under all circumstances. And it is a question whether this idea has not lodgment in the minds of a majority of lawyers in general practice; and I venture the question whether there may not be some patent attorneys who are yet to have this false conception removed. Again, it is a much more prevalent idea that, when one has conceived an invention and has made a model, drawing, or description of it sufficient for one to take such disclosure and embody the mental act in concrete form, he may then rest calmly at least the full two years which he supposes the statute gives him⁵ before filing his patent application. Many of us have clients— inventors, engineers, manufacturers—who make it their practice to complete drawings and descriptions of inventions as they arise, date and witness such disclosures, and file them away to be made the subject-matter of construction and patent application at any future time,—abiding in the false conception that such an act establishes prior right under all circumstances.

Before entering upon a discussion of these problems, we should refresh our minds upon the constitutional and statutory fundamentals and upon the broad principles laid upon them by the courts. The Constitution provides that

"The Congress shall have power . . . to promote the progress of Science and Useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."⁶

In pursuance of this vested power the Congress has enacted, among other things, the following:

"Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvements thereof, not known or used by others in this country, before his invention or discovery thereof, and not patented or described in any printed publica-

⁵R. S., §4886, quoted *infra*.

⁶Art. I, §8.

tion in this or any foreign country, before his invention or discovery thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceeding had, obtain a patent therefor."⁷

"Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery. The specification and claim shall be signed by the inventor and attested by two witnesses."⁸

It thus becomes clear that a patentable invention, which the Constitution calls a "discovery", is a mental act, an abstract thing, as well as a *concrete* act. It must not only be new in the sense of being a discovery—a mental act,—but it must be useful—a concrete thing. It must at least have reached the concreteness of description, specification and claim required by Section 4888 above quoted. The necessity of this two-fold act was early recognized by the courts. In *LeRoy v. Tatham*⁹ Mr. Justice McLean said:

"However brilliant the discovery of the new principle may be, to make it useful it must be applied to some practical purpose. Short of this no patent can be granted."

There can be no question but that the courts have thus uniformly held; but the open question has been, and still is, precisely what, exactly what, in all cases, constitutes the second half of the statutory requirement.

⁷ R. C., §4886; U. S. Comp. Stat. 3382.

⁸ R. S., §4888; U. S. Comp. Stat. 3383.

⁹ 22 How. 132; 14 L. Ed. 367 (1859).

Still another provision of the patent statute is:

"In any action for infringement the defendant may plead the general issue, and, having given notice in writing to the plaintiff or his attorney thirty days before, may prove on trial any one or more of the following special matters:

"Second. That he had surreptitiously or unjustly obtained the patent for that which was in fact invented by another, who was using reasonable diligence in adapting and perfecting the same.

" . . . And the like defenses may be pleaded in any suit in equity for relief against an alleged infringement; and proofs of the same may be given upon like notice in the answer of the defendant, and with the like effect."¹⁰

And it is here to be noted and not overlooked that, while the basic provision, Section 4886, names the two prerequisites, "new" (discovery) "and useful" (reduction to practice), and Section 4888 requires substantial reduction to practice, and Section 4893,¹¹ defining the duties of the Commissioner of Patents, makes essential to the granting of a patent

" . . . that the claimant is justly entitled to a patent under the law, and that the same is sufficiently useful and important . . . "

as a plain matter of fact the Patent Office never has, and in the nature of things never can, actually pass upon the *utility* (actual reduction to practice) of any invention.

It is notorious that a very large number of patented inventions go from the mind of the inventor to the drafting-board and, practically, from the drafting-board direct to the Patent Office. And it is also notorious that no small portion of inventions as actually patented are not only never reduced to practice, but are absolutely incapable of such reduction in the sense of possessing actual, working qualities which would comply with "sufficiently useful and important", under the injunction of the statute above

¹⁰ R. S., §4920; U. S. Comp. Stat. 3394.

¹¹ U. S. Comp. Stat. 3384.

quoted. Out of this unavoidable condition has grown the rule that the filing of a patent application capable of allowance is *constructive* reduction to practice,—a rule which seems to have had the sanction of the Supreme Court as early as *Bates v. Coe*,¹² which was decided in 1868, and which was followed in the Telephone Cases,¹³ in which it was said:

“Although at the time Bell applied for his patent he had never actually transmitted spoken words so that they could be distinctly understood, so long as he had described the device with sufficient precision to enable one skilled in the art thereafter to produce a speaking telephone, it was sufficient.”

We may now safely conclude (1) that before an invention becomes a patentable invention it must possess, in addition to the mental act of invention or discovery, a concrete embodiment of the new and useful idea; (2) that the filing of a patent application disclosing the inventive act and the method of practising the same is constructive embodiment and reduction to practice.

Before taking up the Weighing Machine Case,¹⁴ we should have before us the rulings in the two leading cases of earlier dates. Mr. Justice Story, in writing the opinion in *Reed v. Cutter*,¹⁵ as long ago as 1841, said:

“These latter words [“was using reasonable diligence in adapting and perfecting his invention”, above quoted from Section 4920] were copied from the fifteenth section of the Act of 1836, Chapter 357, and constitute a qualification of the preceding language of that section; so that an inventor who has first actually perfected his invention will not be deemed to have surreptitiously or unjustly obtained a patent for that which was first invented by another, unless the latter was at that time using reasonable diligence in adapting and perfecting the same. And this I take to be clearly the law; for he is the first inventor in the sense of the act, and entitled to a patent for his invention, who has first adapted and perfected the same to use; and until the invention is so perfected and adapted for use, it is not patentable. An imperfect and incomplete invention, ex-

¹² 98 U. S. 31; 25 L. Ed. 68.

¹³ 126 U. S. 1; 31 L. Ed. 863; 8 S. C. Rep. 778 (1888).

¹⁴ *Automatic Weighing Machine Co. v. Pneumatic Scale Corp.*, 166 Fed. Rep. 288, 92 C. C. A. 206 (1909).

¹⁵ *Supra*, n. 1.

isting in mere theory or in intellectual notion, or in uncertain experiments, and not actually reduced to practice, and embodied in some distinct machinery, apparatus, manufacture, or composition of matter, is not, and indeed cannot be, patentable under our patent acts, since it is utterly impossible, under such circumstances, to comply with the fundamental requisites of those acts. In a race of diligence between two independent inventors, he who first reduces his invention to a fixed, positive, and practical form would seem to be entitled to a priority of right to a patent therefor. . . . The clause now under consideration seems to qualify that right by providing that in such case he who invents first shall have the prior right, if he is using reasonable diligence in adapting and perfecting the same, although the second inventor has, in fact, first perfected the same, and reduced the same to practice in a positive form. It thus gives full effect to the well-known maxim that he has the better right who is prior in point of time, namely, in making the discovery or invention."

Recognizing this as a leading case repeatedly quoted and approved, Judge Taft wrote the opinion in *Christie v. Seybold*,¹⁶ in which the fact-conditions were as follows: Seybold conceived his invention in October, 1885, made a rough sketch and showed it to others in January, 1886, made working drawings in October, 1888, and built his first machine in April, 1889. Christie conceived the same invention in the summer of 1886, had working drawings and patterns made in the early summer of 1888, and completed his first machine July 12, 1888. The two applications were filed within a day of each other. It will thus be seen that, while Seybold was the first to discover the invention by a year, he delayed actual building over three years, within which period Christie had both conceived the invention and reduced it to practice by actual construction. Seybold was unable to excuse his long delay on any grounds which appealed to the court. In holding that Seybold, though earlier in conception, in making sketches and in explaining his invention to others, was not the first and original inventor under the patent law, Judge Taft said:

"It is obvious from the foregoing [the above quotation from *Reed v. Cutter*] that the man who first reduces an invention to practice is *prima facie* the first and true inventor, but

¹⁶ *Supra*, n. 2.

that the man who first conceives, and, in a mental sense, first invents, a machine, art, or composition of matter, may date his patentable invention back to the time of its conception, if he connects the conception with its reduction to practice by reasonable diligence on his part, so that they are substantially one continuous act. The burden is on the second reducer to practice to show the prior conception, and to establish the connection between that conception and his reduction to practice by proof of due diligence. . . .

"As Christie reduced the invention to practice nearly a year before Seybold's press was made, the burden is on Seybold to show that from the time of his original conception, which antedated that of Christie, he was using reasonable diligence in adapting and perfecting his idea to practical use. Has he sustained that burden? It is quite clear to us that he has not. . . .

"It can hardly be claimed that the rough sketch made by Seybold of his proposed press in January, 1886, was a reduction to practice. It has been held in many cases that drawings, much more complete than the one here testified to, are not reductions to practice, as against a subsequent conceiver who first made an actual, operative machine."

Hence we may state the rule as it stood prior to the final decision in the Weighing Machine Case thus: As between two *bona fide* and independent inventors claiming the same invention, he who first completes the two-fold act of invention—conception and reduction to practice by actual construction or operation—is in the law of patents, the first and original inventor when the other inventor, though prior in conception, has failed to exercise due diligence in reducing his invention to practice by actual construction or operation. And to this may be added the corollary: Making and exhibiting to others sketches or descriptions of the invention is neither actual nor constructive reduction to practice.

We may now turn to the Weighing Machine Case to see in what respect it has changed the rule thus well established. The complainant held a patent issued to Thomas. The defendant held a patent issued to Watson. The patents covered the same invention. The defense was under Section 4920, priority of invention by Watson. *Bona fide* and independent invention was conceded. The following tabulation of facts will enable us to see the problem presented:

ACTS PERFORMED.	WATSON.	THOMAS.
Conception of invention.	January 10, 1896, No proof (convention. (proved by drawings and disclosure to others).	structively date of application).
Reduction to practice.	April, 1897, (by actual construction of working machine).	December 17, 1896, (constructively by filing patent application).
Application filed.	March 11, 1898.	December 17, 1896.
Date of Issue of Patent.	September 26, 1899.	July 26, 1904.

From this tabulation it will be seen that Watson conceived his invention and disclosed it to others by drawings and explanation eleven months before Thomas filed his application, and that Thomas offered no evidence to prove invention either as conception or reduction to practice earlier than his filing date, December 17, 1896.

If we had tabulated *Christie v. Seybold* as we have the Weighing Machine Case, we should find, by comparing Christie and Thomas, the two prevailing contestants, that (1) Christie conceived his invention and disclosed it to others long prior to his reduction to practice and filing his patent application, while Thomas made no disclosure prior to filing his application and made the date of his application constructively the date of his conception (which, of course, could not have been the case); (2) Christie's prior reduction to practice was by actual construction of a working machine, while Thomas' reduction to practice was solely by filing a patent application; (3) Thomas, so far as the record shows, never made any reduction to practice by construction at any time, so that his only disclosure was by drawings and description in his patent application, differing from the long-prior disclosure of his opponent by drawings and disclosure to others only in degree and detail, and not in kind.

In the interference proceedings in the Patent Office the holdings were: Examiner of Interferences in favor of Thomas; Examiners-in-Chief in favor of Watson; the Commissioner of Pat-

ents in favor of Thomas; the Court of Appeals of the District of Columbia in favor of Thomas. In the equity action the holdings were: The Circuit Court in favor of Watson; the Circuit Court of Appeals in favor of Thomas. And it is to be remarked, first, that the Examiners-in-Chief is an appellate court of three judges of the highest judicial and technical ability; and, second, that Judge Putnam is one of the master-minds in patent questions. One may not, then, brush aside the reasoning of this powerful minority without grave reflection.

While the above tabulation shows a complication sufficient to satisfy any puzzle-lover, it suggests possible complications without number. For example, merely to suggest one that might exist, suppose that, prior to Thomas' filing date, Watson had made reduction to practice by a model which, though a model and not a full-sized machine, was an actual working device. What then would have been the rule? In his opinion Judge Colt says:

"In patented inventions there are several distinct stages of the invention. Some patented inventions comprise only three stages, namely, conception (evidenced by drawings, disclosures, or models), application, patent; while other patented inventions comprise four stages, namely, conception, reduction to practice, application, patent."

Here it will be seen that Judge Colt classifies "models" as a part of the first stage of invention—conception. If the model were a working device, as it might well be, could we then say that it was merely evidence of conception, and not evidence of reduction to practice?

Hence we have the rule as laid down by Judge Colt: As between two *bona fide* and independent inventors claiming the same invention, he who first completes the two-fold act of invention—conception and reduction to practice, either by actual construction or operation, or by filing an allowable patent application—is, in the law of patents, the first and original inventor when the other inventor, though prior in conception, has failed to exercise due diligence in reducing his invention to practice, either by actual construction or use, or by filing an allowable patent application. And with this corollary added: That it is not incumbent upon him who thus completes the inventive act first, as a prerequisite to

his award of priority, to establish the fact of due diligence on his part, but he may remain silent and rest the date of his conception upon the filing date of his patent application.

I have used the term "allowable" as qualifying the patent application which may constitute constructive reduction to practice because Judge Colt employs it and because Commissioner Mitchell so used it in *Lorraine v. Thurmond*,¹⁷ which case Judge Colt quotes as authority.

And this raises another question. I have before me at this time a case involving this question wherein the original application was distinctly "allowable" as to the subject-matter which it contained, but which wholly failed to disclose the subject-matter of the subsequently contested claim and which the applicant must carry back to his filing date to anticipate the subsequently-filed application. Does such filing of an "allowable" application carry the undisclosed subject-matter back to the filing date even if it be proved by supplemental oath and by affidavits that such undisclosed subject-matter was, in fact, a part of the original invention?

Without further suggestion of conditions which this rule fails to fit, let us turn very briefly to Judge Putnam's main reason for holding Watson rather than Thomas the first inventor. This may be done by a paraphrase of his statement: "Undoubtedly the decision of the Court of Appeals of the District of Columbia was sound, because the issue there was purely one between two rival inventors. But here there arises another consideration, namely, the right of the public at large, in addition to the respective rights of the rival inventors. Watson conceived the invention and disclosed it to others long prior to Thomas. He made a disclosure which, even if published in a foreign publication, would have been quite sufficient to constitute a complete anticipation of Thomas. It was a disclosure amply sufficient to enable another to construct and use the invention, and was, therefore, as against Thomas and any other inventor save Watson, an absolute anticipation."

¹⁷ 51 O. G. 1781 (1890).

As said at the outset, it would ill become me to attempt an academic solution of this vexed question. But even from this much-condensed, and perhaps inadequate, review of the case, we may draw certain conclusions which may be useful. First, constructive reduction to practice by filing an allowable patent application has been given a position of importance heretofore undefined, because this exact condition had never before been presented to the courts. Second, that this ruling is of final control where it fits the facts; but that there are obviously numerous conditions to which it could not be applied except by material modification. Third, it teaches inventors and attorneys alike that diligence in reduction to practice, either by actual construction or by filing an allowable patent application, grows in importance with the increase of inventive genius and intensity of industrial struggle.

William Macomber.

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